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Non-Scheduled Flying Takes Spotlight Relation to War and Peace Aid Discussed

A mounting appreciation of the importance of non-scheduled flying in its relation to the war effort, and the place it will hold in peace time activities, is manifest among members of the industry and those who will buy and use the planes.

Non-scheduled flying is generally accepted to mean; operations for hire, use of planes by individual firms for transporting representatives or products and utilization of aircraft for pleasure or convenience.

Needs of each have long been recognized by the Civil Aeronautics Administration, and recognized in many ways. The most recent is the appointment of John H. Geisse as assistant to Administrator T. P. Wright, in charge of private flying. Simultaneously with the Geisse appointment came announcement from the Administrator of plans for setting up an advisory committee on non-scheduled flying composed of representatives of the industry.

Discuss Non-Scheduled Flying.—The Conference of Airport Users, recently held in Washington, gave non-scheduled flying more detailed and searching consideration than almost any other item on its agenda. The discussion ranged the field, from commercial operations to the kind of plane the average citizen will want to own and fly for convenience in business or for pleasure.

Industrial flying, including crop dusting, forest patrol, insect control, photography and charter flying is being increasingly used in the war effort, and, it is believed, will furnish more employment for returning air force veterans than will be developed by any other branch of aviation.

Methods of increasing the scope of radio aids and further safeguarding safety in non-scheduled flying were discussed by Thomas B. Bourne, Director of CAA Federal Airways, in an address before the Engineers Club of Dayton, Ohio.

In a survey of the economic phases of the CAA airport building program, J. B. Bayard, Jr., Chief of the Planning and Survey Section, before the Conference of Airport Users accented the importance of non-scheduled flying.

Radio Flying Aids.—Bourne in his talk before the Engineers on "Radio Plans for Postwar Aviation" said:

"I should like to say at the outset that we in the Civil Aeronautics Administration have been trained in our thinking to take care not only of the commercial pilot but also the private pilot on every installation and plan for radio facilities. In the postwar period the private pilot will be our biggest customer and will demand equipment which will permit him to fly with a reasonable degree of dependability merely through the use of a low cost, light weight radio receiver and a transmitter. This subject is a challenge to everyone who plans air navigation facilities.

Instrument Landing System.—"The outstanding weakness in the air navigation facilities provided by the Federal Government appeared several years ago in the presence of static in the low frequencies. The deficiencies of this system were further increased by the demand for more stations at terminals and the resultant interference due to the limited number of frequencies available.

"The first important measure to improve this situation started with the very high frequency instrument landing system perfected by our Technical Development Division in October of 1939. This system has now been adopted by the Army, Navy, and most of the nations of the world as their standard. The CAA will have 58 of these systems in operation by the end of the fiscal year 1946. Eight are now installed, ten are underway and the remaining forty are expected to be completed during the next eighteen months. In addition, the CAA is installing fifty instrument landing systems for the Army, thirty-five of which have already been completed.

VHF Ranges.—"The next step in improving air navigation facilities for which Congress has provided money, but which has been delayed for two years by war necessities, is the conversion of the radio ranges from low frequencies in the 200 to 400 kilocycles band to very high frequencies in the 112 to 118 megacycles band. This range program is now going forward and it is anticipated more than half of the present 37,000 miles of airways will be served by VHF ranges by July, 1946. Substantial progress already has been made with eight

(See *Flying*, page 17)

Bayard Discusses Economic Phases Of CAA Port Plan

Effect of the Civil Aeronautics Administration's National Airport plan on business was discussed by J. B. Bayard Jr., Chief of the Planning and Survey Division of Airport Service before the conference of Airport Users.

A brief of Bayard's address follows.

"In presenting the National Airport Plan to Congress, the CAA focused attention on the broad, national picture, on the needs for airports in every part of the country, and on the effects which an adequate airport program would have on the lives of our 132,000,000 people. That is the subject I would like to talk about.

"The airport system may be said to be in the same position today that the highway system was in 1916—with one important exception. In 1916, we did not have a huge automobile industry. Today, we do have an aviation industry. I won't waste your time emphasizing that point.

Beginnings of Public Roads.—"In 1912, when the first legislation proposing federal aid for road construction reached Congress, four years of active discussion began. When the first federal appropriation of \$25,000,000 was passed, the minority 'viewed with alarm' this departure from federal practice.

Both Transportation Agencies.—"The analogy between the automobile and the airplane will shed much light on the economic aspects of the airport program. This analogy is probably lop-sided today when we must consider an aviation industry swollen by war, and when its products devoted to commercial life are an infinitesimal portion. But the automobile and the airplane are both transportation vehicles serving a nation of people that delights in getting up and going somewhere. We have found out quite recently that the same skilled American workmen can produce either the automobile or the airplane with the same tools in the same factories. Thus the travel habits of Americans, and the American's mechanical skill and ability, the industries related to both combine to lump these two vehicles into one category where their economic impor-

(See *Bayard*, page 16)

Wright Names Geisse Aide in Development Of Private Aviation

In preparation for the postwar development of private aviation T. P. Wright, Administrator of Civil Aeronautics, has named John H. Geisse as an assistant. He will make recommendations to the Administrator on all phases of the anticipated expansion of this kind of flying.

Geisse, long a student and champion of private flying, will suggest policies and procedures for the advancement of all branches of private flying. He will prepare studies and make recommendations calculated to be beneficial to the plan.

To Act As Liaison.—Geisse will be liaison man between the industry and the Administrator, serving as the CAA representative with other agencies; Federal, State, Civil and non-governmental, which will be concerned with the personal plane and popular flying.

"Establishment of this office is in accord with the CAA's functions to encourage and foster the development of Civil Aeronautics and Air Commerce as stated in the Aeronautics Act of 1938," Mr. Wright said in announcing the Geisse appointment.

Many Jobs Promised.—"Over the long period no part of the aviation industry holds as much promise of new employment in volume manufacture and in sales and service as private flying. When you compare its potentialities with those of commercial air transport, it is possible the present relative position may be reversed."

For many years Geisse has been a prominent figure in the development of private flying. He joined the CAA in 1933, and was in charge of the Development Section of the Bureau of Air Commerce in 1935 when the Bureau worked on the development of a plane for popular use. He has appeared before many meetings and conferences in recent years, urging greater attention to the private flier and the private plane, describing them as the best basis for a healthy aviation industry, and lately prepared a report on "Postwar Outlook for Private Flying," for William A. M. Burden, Assistant Secretary of Commerce.

200 Mile Trips Minimum.—In discussing his appointment, Geisse said, "We have no expectations the personal airplane will be used for the many types of short trips which account for 88% of the total automobile mileage. However, the balance of automobile mileage is on trips of 200 miles or more, and this travel alone accounts for a passenger mileage which closely approaches the combined passenger mileage of the railroad, the street-cars and the busses. For such trips, we believe the personal airplane could and will be made very attractive."

"That there will be a very substantial market for personal airplanes after the war has been indicated by the many market surveys which have been made. Both the Collier and the Whan surveys indicate that there are more than 200,000 persons who now expect to buy an airplane immediately after the war and many times that number now contemplate such a purchase at some later date. The potential market is there, unquestionably."

Possibilities Almost Limitless.—"But this market is for private flying as these prospective customers believe it to have

Assumes New Duties



John H. Geisse

Becomes
Aide To
Administrator,
Private Flying
Consultant

existed prior to the war. Their expectations are well beyond anything that could have been met by prewar personal flying, but entirely within the realm of possible accomplishment. The possibilities of making the airplane the accepted means of cross-country transportation and thus broadening the horizons for the many, are almost limitless.

"Although all details of the CAA program for encouraging private flying have not been established," Mr. Wright emphasizes that "a platform for the proper advancement of personal flying should include these planks:

"An adequate development of airparks and landing areas.

"A rationalization of regulations.

"The reinstatement of a civil pilot training program.

"Development of a private flier's airplane vastly superior and less costly than any now known—an airplane worthy of the market. This is the most important plank in the platform.

"It is the responsibility of those in the personal aircraft business and of us in government to see that the gap between pre-war and post-war flying be bridged. We should be able to do this, and if we do, those estimates of personal flying which now seem fantastic will be met."

Pittsburgh Radio Range Helps Army Plane to Port

An Army plane, heavily loaded and low on fuel, was brought down safely at the Pittsburgh airport through a severe thunderstorm by the cooperation of the CAA radio range station there.

The pilot, Captain T. C. Blodgett, through his superior, Lt. Col. Clifford P. Burton of the Air Corps, has expressed his appreciation and gratitude for the services of the Air Traffic Control Division.

Colonel Burton, in transmitting Captain Blodgett's letter, wrote; "The commendation is referred to your office with gratification over the cooperation manifested between the Civil Aeronautics Administration personnel and Army Flight Service to bring about the successful termination of the flight."

Aircraft Structure Booklet Issued

A booklet on Aircraft Structures which contains material acceptable to the Civil Aeronautics Administration, Army Air Forces and Navy Bureau of Aeronautics, has recently been issued. It is obtainable from the Superintendent of Public Documents, Government Printing Office, Washington, D. C., price 75¢.

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INFORMATION
AND STATISTICS

War Department Policy On Veteran Jobs Outlined

It is the War Department's responsibility to provide its former civilian personnel, returning as veterans, the maximum possible assistance in finding reemployment in the Department, Secretary of War Stimson announces.

Following are parts of the text of the Department order on the "Reemployment of Returning Veterans." It is being issued to all agencies of the Department employing civilians.

"Existing statutes granting reemployment rights to persons serving in the Armed Forces or Merchant Marine place a clear legal obligation on the previous employer under prescribed conditions to restore such veterans to their civilian positions.

"It is my desire that the application of this policy be generously interpreted in favor of the veteran. Under no circumstances should supervisors resort to fine shadings or exceptions so as to defeat this clear purpose. Any reasonable doubt is to be resolved in favor of the returning veteran. While the War Department cannot go beyond legally prescribed limits in extending benefits to returning veterans, no effort should be spared in adhering to the cardinal principle of the War Department policy of extending maximum possible assistance.

"The Department has further established the basic principle that primary responsibility for reemployment of a veteran rests with the commanding officer of the installation in which the veteran was employed prior to entering the Armed Forces or Merchant Marine.

"To effect the veteran's placement with as little personal dislocation as is possible, the Director of Civilian Personnel and Training is authorized and directed to develop, in collaboration with the Headquarters of the major components of this Department, such procedures and organization as may be required."



CIVIL AERONAUTICS JOURNAL

CAA Surveys Postwar Aviation From Employment Standpoint

The Civil Aeronautics Administration has prepared a brief survey dealing with the subject of postwar jobs in aviation.

Hundreds of service men daily address requests for information on that subject to the CAA. Their letters indicate the widespread interest in postwar aviation employment prospects.

The CAA survey, based largely upon predictions made by responsible authorities, is presented as a guide and not as a guarantee. The aviation industry will exist only as a part of the whole economic structure, and any predictions must be predicated on general postwar economic conditions.

In addition to piloting and the jobs known generally as "maintenance," many other allied industries will grow in ratio to all of aviation. These include: air packaging, new equipment in freight planes, design and manufacture of better dusting equipment, preparation of seeds for aerial planting, and development of allied machinery and services of all kinds.

Industrial Flying.—There are indications that more than 90% of postwar employment relating to the air will come within the field of industrial flying. Some of its possibilities were only partially developed in pre-war days. However, it is a field in which the commercial possibilities will be limited only by ingenuity, imagination, and sound business practice of the operator.

The types of aviation activities in this kind of flying vary widely, and are highly specialized. Following are some of the activities and estimates of the employment they may produce:

There is a distinct possibility here of steady employment in a moderately active market in flight instruction; the Civilian Pilot Training Program may be partially revived through a future appropriation by Congress which has legalized the extension of the program for two years. As private planes become easier to fly, the flight instructor will probably change into a salesman-instructor who will teach each purchaser as part of the sales contract.

Considerable increase is expected in crop dusting and spraying of insecticides and larvacides; and in destruction of insects such as grasshoppers, fruit fly, and other destroyers, through the use of highly effective new poisons developed during the war.

This started as a sport but has developed into a profitable enterprise. Bounties and sales of skins of coyotes, wolves, etc., pay well.

Smoke spotting, carrying of fire-fighting parachutists, dropping of equipment and food to fire-fighters, radio directions to ground crews, all make the flying fire engine a valuable addition to fire control.

Low level flying to spot and report breaks, leaks, and other trouble, long before the ground inspector can find them. This is being carried on now to a small extent, successfully. The war has produced many more miles of oil and gas pipeline, and power lines.

Aerial Photography.—A steady increase of good pre-war business is expected because of better equipment, more experience, etc. Photographing of private estates, real estate developments, golf courses, mapping for survey, crop planning, soil conservation, flood control, restoration programs, map

making, etc., are logical extensions. Spotting of cattle, other animals on range, and census counting of farms, and game animals can be done by photography.

Spotting schools of fish for commercial fishing boats, and planting of fingerlings in remote lakes difficult of access by ground offer work for planes.

This has always been an important item in the industry. It is expected to increase. Along with it will probably be a sizeable rent-a-plane service barely started before the war.

There will be greater possibilities in light-weight air freight than in any commercial transport field. With fleets of scheduled and non-scheduled freighters, the possibilities are enormous. Imagination and ingenuity can lead to still more opportunities.

It should be remembered that each enterprise must operate from an airport, and must be backed up by the men on the ground—mechanics, repairmen, radio operators, field managers, welders, metal workers, traffic controllers, tower operators, weathermen, and all the other allied professions.

Before the war, there were approximately 350 airline planes in continuous operation.

These required about 3 crews and an estimated 23 people on the ground for each plane. This includes everyone from the Dispatcher to the man who pulls the chocks.

Postwar Volume Estimated.—It is evident, and airline officials emphasize this, that the airlines will not be big employers of labor after the war. It should be remembered that the Army Air Transport Command or the Naval Air Transport Service each are bigger than all the pre-war airlines added together, are operated with routines similar to the airlines, and staffed, to a large extent, with airline men. The natural result of this situation will be that men from these two particular branches of the services will have the best chance for any of the comparatively few openings, flying and non-flying, which may develop in airline operation.

Today, we have a 20 billion dollar annual aviation manufacturing industry. Some say we will be lucky to have 5% of that operating in peacetime. That would be a \$400,000,000 industry employing 50,000 persons. J. A. Krug, Chairman of the WPB estimates 5% to 10% of today's industry will survive.

Manufacture of private planes will comprise the major portion of our postwar aviation industry. It would be valuable to know now how many private planes will be bought and used, but this number can only be estimated.

It is predicted that there will be 210,700 private planes in that period, which would mean eight times as many as the 25,000 planes we had in 1941.

Two very important variables are in this picture. One is the helicopter which is developing fast. The second is an entirely new kind of plane so useful that it will be manu-

Road Makers Convention Addressed by Donaldson

In his address before the Conference of American Road Builders Association in Chicago, Civil Aeronautics Administration Director of Airports Charles B. Donaldson compared the road building of the past 25 years with the CAA airport program.

He said: "By investing 25 billion dollars in roads during the last 25 years we have made it possible for the United States to become a Nation on wheels, with 32,000,000 motor vehicles in operation during normal times.

"For a much smaller investment we can start the United States on its way toward becoming a Nation on wings with all that implies in war and peace.

"There are approximately 25,000 civilian aircraft in the United States today. We estimate that there will be 400,000 civil airplanes in this Country within 10 years of the war's end and that number will continue to increase. To serve this expected extensive growth in civil aviation the report proposed that this Nation construct approximately 3,000 new airports and improve approximately 1,600 of the 3,000 existing airports."

factured in quantity and sold at a popular price. Such a plane, appearing soon after the war, would disrupt, many a prediction, but neither it nor the helicopter is in sight today for the near term future.

Employment at Airports.—The National Airport Plan, drawn up by the CAA, estimates 3,000 proposed new fields will produce 63,000 operational jobs and 125,550 jobs will result from the total of 6,305 fields. At the average large airport, used by transport services, 200 men are usually employed, the jobs ranging from airport manager down through the waiter in the airport restaurant to the man who keeps the grounds clean. At smaller airports, the estimate of jobs is 10 per field.

Many Service pilots have written asking about flying jobs with the CAA after the war. Although the CAA is certain to expand as flying increases, it will take back its own men in Service first, and, further, there are very few flying jobs in the CAA. Those few require pilots of exceptional skill, and many years of experience on a wide variety of airplanes. Employment possibilities as a pilot with the CAA are so small as to be negligible, at least for several years.

Airways jobs, from engineering to maintenance, will be available with the CAA Communications, Air Traffic Control and Maintenance men will be needed as the airways are expanded after the war. Men with military experience in air traffic control, communications, weather, signals—either operational or maintenance—would be logical CAA employees.

The desire of the aviation industry to offer jobs to veterans and others who plan a career in aviation must be considered with the understanding that the industry cannot possibly maintain employment approaching the present level after the war. However, thousands, including many women, will withdraw from work; thousands more will go back to their own true trade which has been eliminated during war; many civilian commodities which are almost extinct at present will siphon off other thousands. As always, a man with ability, ingenuity, good judgment, and ambition will find his natural place in the work for which he is best fitted.

Recent CAA and CAB Releases

Copies of releases made by the Civil Aeronautics Administration and the Civil Aeronautics Board are obtainable from the CAA Information and Statistics Service and the CAB Public Information Section, both in the Department of Commerce Building, Washington 25, D. C.

CAA Releases

Glen A. Gilbert, Chief of CAA Air Traffic Control Division, discusses "Plans to Improve Air Traffic Control" before annual meeting of the Radio Technical Commission for Aeronautics.

Charles P. Donaldson, CAA Director of Airports, addresses Conference of American Road Builders Association on the Airport Building Program.

Thomas B. Bourne, Director CAA Federal Airways, before Dayton Engineers Club, "Radio Plans For Postwar Aviation."

J. B. Bayard, Jr. Chief of CAA Planning and Survey Division, before Airport Users Conference, "Economic Aspects of Proposed CAA Airport Construction Program."

CAB Releases

L. Welch Pogue, Chairman of the Board, "Transportation," address before Voteless D. C. League of Women Voters and "International Air Trade and Travel Routes of the Future," address before Aviation Section New York Board of Trade.

Edward Warner, Vice Chairman of Board, "International Airworthiness Standards," address before Automotive Engineers.

Mid-Continent's Route 26 Extended to New Orleans

The Civil Aeronautics Board announces extension of Mid-Continent's route No. 26 south from Tulsa to New Orleans via the intermediate points of Muskogee, Fort Smith, Texarkana and Shreveport. The order restricts service between Shreveport and New Orleans to that provided by flights originating or terminating at Kansas City or points north thereof, and at New Orleans. As presently certificated route No. 26 extends from Tulsa through Kansas City, Omaha and Huron, where it splits into two segments, one terminating at St. Paul-Minneapolis, and the other at Minot, N. Dak. In addition, Mid-Continent is certificated over route No. 48 between Kansas City and the Twin Cities via Des Moines.

The Board also added Joplin as an intermediate point on route No. 26 between Kansas City and Tulsa. Joplin was served by Mid-Continent on a temporary basis. To permit direct flights between Kansas City and New Orleans, Mid-Continent was authorized to omit stops at Tulsa and Muskogee on flights between the former points when the traffic warrants such a direct operation. In the same opinion Continental Air Lines, Inc., was authorized to provide service to Bartlesville, Oklahoma, as an intermediate point between Tulsa and Wichita, Kans.

Applications by Delta Air Corporation and National Airlines, Inc., for routes between Kansas City and New Orleans by way of various intermediate points were denied.

Bayard

(Continued from page 13)

tance can be rightfully compared, one with another.

"Although we have not yet developed an airplane which has wide public acceptance, we can be sure the airplane will do to our daily life approximately what the automobile did. It will extend our range of personal travel; it will change our social outlook; it will affect the tempo of our daily business; it will pep up daily living in a hundred ways, just as the automobile did.

"More important, it will produce a new layer of wealth over this whole country. I'm not so bold a prophet as to say it will equal the layer laid down by the automobile. But it is certain to add to our transportation figures and business, and the subsidiary industries, such as the petroleum industry, will also advance.

"Thus far I have seen no radical improvements over the planes that were sold before the war. I for one do not believe that a sizeable private flying industry can be built upon planes like these. If a vehicle is useful, the American people will buy it. If it is not useful, it will not sell. It must be useful in itself. This, as you can see at once, is the airplane manufacturer's job.

CAA's Attitude.—"The CAA can help in this direction, and machinery for helping is already in operation. Administrator T. P. Wright has appointed John H. Geisse, long-time champion of private flying to be his Assistant in Charge of Development of Personal Flying. This appointment follows Mr. Wright's announcement that the CAA should cooperate with industry, and that it should, as authorized by law, engage in the development of aircraft, aircraft engines, propellers and accessories. The CAA does not plan to build planes, or invent, design and develop with its own personnel. All such work will be done by the method we have already found to be successful: through contract with the private firms.

"The industry objected when the proposal was made, but a meeting with Mr. Wright has put everybody on the right track, and I think we will see some very valuable results from this Government-Industry cooperation.

"Now for the third if. What will be the buying power of the people after the war? Will we be forced to use our airport program for work relief, and store the CAA report away on the shelf of projects which the President has sensibly asked his department heads to have ready for an emergency?

Employment Possibilities.—"The airport program itself will contribute materially to postwar employment. In the report recommending that the Congress authorize a Federal aid airport program we said that the construction program itself would provide 1,250,000 man months of temporary direct employment and that the national airport system would furnish continuous employment to some 63,000 persons exclusive of the aviation manufacturing and other allied industries as well as community business. Because of the importance of the employment angle of the airport program we have made a more comprehensive analysis of the employment potential of the airport based on the anticipated use of the airports included in our program.

"The aviation manufacturing industry is now 5 times as large in value of products



Q—I'm a GI with some time on my hands, and I want to get into aviation after the war. I'd like to have my own business, either in the maintenance or flying end at some good field. I know airplanes and flying pretty well, but I know very little about business. What help can the CAA give me along this line?—C. E. P.

A—The CAA believes there will be many opportunities along your line after the war, but, as you can very well see, you will not be able to step out of uniform into a going concern. You can be getting your elementary business training now by correspondence from the U. S. Armed Forces Institute at Madison, Wis. Your Army has published interesting books on "The Small Business," on "Organization" and one on "Operation." These are general courses to fit you for conducting any small business. There are no CAA publications, at this time, on the subjects you name, except the Civil Air Regulations and these are available to you.

Q—Will you give me the names of airports for private flying in the vicinity of Philadelphia.—N. W.

A—Wings Field, Ambler, Pa.; Penns Grove Airport, Penns Grove, N. J.; Almonesson Field, Blackwood, N. J.; Echelon Field, Ashland, N. J. and Somerton Airport, Somerton, Pa.

Q—(1) May a private pilot fly with an unlicensed friend in a J-3 (Cub) with dual rudders, but stick not operating? (2) May a J-3 equipped with position lights only be flown at night from a field which does not having landing facilities?—P. P.

A—(1) Yes, provided no stunting is engaged in. (2) Yes, if no passengers for hire are carried.

Q—What are the general requirements for flight engineer with the airlines? What preparations should a person make looking forward to such employment?—H. M.

A—Standards and requirements are fixed by the employing airline. Those of the Transcontinental & Western Air, Intercontinental Division probably are typical and detailed information regarding them may be obtained by addressing Kemper Jacks, Hangar No. 2, Washington National Airport, Washington, D. C.

Q—(1) Who administers the G. I. Bill of Rights (Servicemen's Readjustment Act)? (2) To whom should I apply to make arrangements for training under the Act?—J. H.

A—(1) The Act is administered by the Veterans Administration. (2) Inquiries regarding training should be addressed to General Hines, Administrator of the Veterans Administration, Vermont av. and H. st. N.W., Washington, D. C.

as the automotive industry was at its peak and that our main job is salvaging for peacetime uses as much as possible of this capacity. New and improved airports are required to increase the utility of the postwar personal airplane and to serve as bases for sales distribution and service organizations.

"It therefore appears that the expeditious completion of the airport program would serve a dual purpose in times of prosperity while in times of depression its contribution to employment would be well worth while."

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Summary Of Six Airport Plan Bills In Congress

SIX bills to put the Civil Aeronautics Administration's National Airport Building Plan into operation have been introduced in the Seventy-ninth Congress. All are alike on the fifty-fifty basis on which Federal grants will be made and only one, HR 674, Representative Lea, Calif., excludes land costs.

HR 287, Representative Randolph, W. Va., provides \$100 million yearly for 10 years and makes grants to states.

HR 674, Representative Lea, Calif., provides \$650 million over 10-year period, makes grants to any public agency sponsoring project.

S 34, Senator Bailey, N. C. and HR 4, Representative Randolph, are companion measures. Senator Bailey's provides \$80 mil-

lion yearly for 10 years and Representative Randolph's \$100 million yearly for the same period. Each would set up state and urban programs, with small airports being state projects with grants to states and including class 3 and smaller; urban class 4 and larger. Grants are made to sponsors.

S-2 and HR-1125 are identical and were introduced by Senator McCarran, Nev., and Representative King, Calif. Each provides \$100 million annually for 5 years. State and urban programs are provided with class 2 and smaller classified as state projects and larger ones as urban. They further provided that counties and cities may obtain grants for desired projects in the state program when states are "unable or unwilling to go forward."

Flying

(Continued from page 13)

VHF two-course visual, two-course aural ranges now in operation between New York and Chicago. VHF ranges of this type are being extended west from Chicago in accordance with the plan submitted to the industry on December 7. Field surveys have been made, construction materials are being assembled and the ranges have been scheduled for commissioning by June 30, 1945. The Atlantic-Boston and San Diego-Bellingham airways are the next routes to be implemented with VHF ranges, and it is expected that installation of radio equipment on these routes will begin by July 1, 1945.

"While the initial installations of VHF ranges will be of the two-course visual, two-course aural type, it is planned to convert these ranges to omnidirectional visual ranges as rapidly as possible. In making this conversion, we will use the same transmitters and to a large extent the same sites.

"As visualized by the CAA, airport traffic control must be provided at busy airports during all weather conditions, as well as during contact weather conditions. To this end, a plan known as 'approach control' has been developed by the CAA in collaboration with the aviation industry, which involves direct communication between the airport traffic control tower and aircraft approaching the airport while on instruments.

Two Frequencies Probable.—"Post-war plans envision that probably two VHF frequencies will be provided for airport traffic control communications with other than those aircraft receiving instructions over the voice channel of the runway localizer. One frequency would be used for aircraft in the air flying locally around the airport, and the other frequency for aircraft on the ground in connection with taxiing and parking instructions. It is proposed that all airport traffic control communications, other than those over the voice channel of the localizers, will be conducted in the 118-122 megacycle band. The band 122 to 132 megacycles has been set aside mainly for aircraft to ground transmission frequencies.

"The CAA for navigation, communications and traffic control contemplates it will be possible for the average private pilot to obtain all of the essential airways services through the use of but one receiver. This receiver must be capable of covering the frequency band of 108 to 132 megacycles without interruption, either by push-button or

Study Weather Reports Urges CAB

The Safety Bureau of the Civil Aeronautics Board has issued a bulletin urging pilots to make close and careful studies of weather reports as an essential aid to safe flying. It calls attention to the fact that weather was a factor in 116 accidents in 1943; primary cause in 131 and secondary in 315.

by tuneable control, or perhaps by the combination of both, with this one receiver he will be able to receive navigational guidance along the airways, navigational guidance for instrument approaches and all of the essential two-way radio communications while enroute and while landing and taking off.

How Scanning Screen Works.—"A device which will be highly desirable as a monitoring or safeguarding facility in airport traffic control towers is what might be called a 'scanning screen' operated on electronic principles, which will permit the airport traffic controller to visualize the actual positions of all aircraft at all times within a predetermined radius of say 25 miles from the airport. These screens will permit monitoring the movement of aircraft on the instrument approach system so as to detect any hazardous condition that may possibly develop as a result of a pilot not following instructions or as a result of some failure in aircraft equipment. They also would make it possible for the airport traffic controller to arrange the flow of departing aircraft with more certainty as to the positions of approaching aircraft.

"An approach to the procurement of a collision warning indicator is through the use of radar technique. While this approach certainly offers possibilities and should not be neglected, it should nevertheless be kept in mind that it is highly desirable that the effective range of the indicator be in all directions, rather than just the front hemisphere or a portion of one hemisphere. Further, weight and cost elements involved in this approach to the problem need careful consideration.

"In any event, the CAA is of the opinion that a collision warning indicator is one of the most important single improvements needed for air traffic control. While the CAA will continue attempting to solve this problem, I hope radio engineers in this group and elsewhere will give this device much thought and help us in attaining early successful development."

Postal Rates Inquiry

Is Ordered By Board; Other Cuts Indicated

The Civil Aeronautics Board has directed American Airlines, Eastern Air Lines, Transcontinental & Western Air, and United Air Lines, to show cause why their mail rates should not be reduced from 60 cents to 32 cents per ton-mile of mail carried.

General Rates Query Ordered.—Concurrently with the mail rate orders, the Board instituted a general investigation of the rates, fares and charges for the transportation of property by the domestic air carriers.

The order of general investigation of property rates was directed to all the air carriers operating within the United States, and to Hawaiian Airlines, operating only in the Hawaiian Islands.

Under this order the Board may examine the reasonableness of rate levels, or of any individual or joint rate, or examine any discriminatory or preferential features of such property rates.

Reasons for Suggested Cut.—In the statement of tentative findings and conclusions supporting each of the orders, concerning the mail rate, the Board said:

"An important factor which must be taken into consideration in establishing the mail rate in this proceeding is that our estimates of respondent's passenger and property revenues may be subject to readjustment as a result of rate reductions. The tentative rate of mail compensation, therefore, should reflect this possibility. Since it is difficult to weigh such factors precisely, the tentative rate which we establish for the respondent at this time may be subject to adjustment either upwards or downwards, as the facts of record warrant, when our final order in this proceeding is issued."

In relation to the general investigation order, the Board said:

Property Rates Important.—"It appears appropriate at this time to commence an investigation of rates for the transportation of property by air. Air express and air freight are aspects of air transportation which increasingly will demand the close attention of the air carriers and government authorities alike in order that no impediments will stand in the way of their rapid and economically sound growth. Numerous and difficult problems concerning rates for the carriage of property by air await investigation and solution."

According to the show-cause orders, the four airlines involved are allowed twenty days in which to file notice of any objections they may have to the tentative findings of the Board in regard to their mail rates, and twenty-five additional days are allowed for the filing of written answer and any supporting documents.

Determining Altitude of Airplanes

The Journal of the Washington Academy of Sciences, Volume 24, No. 9, contains a paper by W. G. Brombacher, National Bureau of Standards on "Altitude by Measurement of Air Pressure and Temperature." A considerable portion of the paper is devoted to "Altitude of Aircraft."

Domestic Air Carrier Statistics

Operations for December 1944

Prepared from official reports, submitted by the air carriers listed, to the Civil Aeronautics Administration and the Civil Aeronautics Board

Operator and routes	Revenue miles flown	Revenue passengers carried ¹	Revenue passenger miles flown	Express carried (pounds)	Express pound-miles flown	Passenger seat-miles flown	Revenue passenger load factor (percent)
All American Aviation, Inc. Pittsburgh-Huntington, Jamestown, Williamsport, Harrisburg, Washington.....	90,984	0	0	7,421	1,271,019	0
American Airlines, Inc. Total	3,303,840	81,933	52,306,496	2,359,104	1,147,066,162	59,621,077	87.73
Dallas-Los Angeles.....	1,197,128	22,667	20,062,594	268,490	259,622,838	22,021,842	91.10
New York-Chicago.....	516,605	17,184	6,929,798	818,905	399,203,846	8,104,954	85.50
Boston-New York.....	216,471	19,707	3,468,458	438,335	67,876,718	4,408,804	78.67
Syracuse-Cleveland.....	12,927	970	165,297	33,316	6,108,998	290,941	56.81
Cleveland-Nashville.....	69,907	4,766	1,140,448	103,428	24,877,797	1,422,177	80.19
New York-Fort Worth.....	831,798	24,072	13,210,204	434,275	259,047,400	14,667,882	90.06
Washington-Chicago.....	144,293	4,933	2,270,569	137,359	53,856,274	2,587,557	87.75
Chicago-Fort Worth.....	147,335	5,507	2,463,660	84,194	47,231,669	2,905,658	84.79
Buffalo-Toronto.....	3,344	616	46,816	1,520	115,520	69,844	67.03
El Paso or Fort Worth-Mexico City.....	164,032	2,878	2,548,652	39,282	29,125,102	3,141,418	81.13
 Braniff Airways, Inc. Total	563,134	21,764	9,252,316	69,341	74,835,979	11,484,449	80.56
Chicago-Dallas.....	333,904	10,291	5,602,416	38,303	59,400,973	6,666,299	84.04
Denver-Brownsville.....	196,990	10,857	3,217,194	27,151	14,149,332	4,133,210	77.84
Houston-Nuevo Laredo.....	32,240	2,521	432,706	3,887	1,285,674	684,940	63.17
 Chicago and Southern Air Lines, Inc. Total	265,677	8,811	3,999,676	117,116	44,551,752	5,520,924	72.45
Chicago-New Orleans.....	221,727	7,925	3,301,289	100,769	39,941,692	4,606,829	71.67
Memphis-Houston.....	43,950	1,907	698,387	16,347	4,610,060	914,095	76.40
 Continental Air Lines, Inc. Total	232,489	5,932	2,322,245	23,110	8,729,836	2,888,970	80.38
Denver-El Paso-San Antonio.....	155,809	4,209	1,563,706	13,920	4,752,465	1,762,971	88.70
Denver-Tulsa.....	36,000	1,341	334,921	3,932	1,016,649	388,714	86.16
Denver-Kansas City.....	40,680	863	423,618	5,258	2,960,722	737,285	57.46
 Delta Air Corporation Total	343,368	14,522	6,069,445	100,168	39,104,173	6,959,743	87.21
Charleston or Savannah-Fort Worth.....	286,048	11,593	5,063,134	61,343	26,578,841	5,789,865	87.45
Atlanta-Cincinnati.....	57,320	3,165	1,006,311	38,825	12,525,332	1,169,878	86.02
 Eastern Air Lines, Inc. Total	1,678,268	51,196	27,280,167	706,175	405,468,153	33,177,915	82.22
New York-San Antonio or Brownsville.....	492,818	15,643	8,348,544	175,687	119,889,943	10,000,164	83.48
New York-Miami.....	723,671	21,851	10,949,705	320,748	195,491,037	13,756,373	79.60
Chicago-Jacksonville.....	260,139	10,730	4,686,227	140,585	54,832,988	5,348,704	87.61
Atlanta-Miami.....	127,295	5,245	2,080,350	22,118	11,852,203	2,627,953	79.16
Washington-St. Louis.....	74,345	2,734	1,215,341	47,037	23,401,982	1,444,721	84.12
 Inland Air Lines, Inc. Total	130,860	3,492	1,076,898	8,625	1,818,956	1,669,229	57.61
Denver-Grand Falls.....	98,222	2,977	1,013,849	8,351	1,742,099	1,555,339	58.76
Cheney-Huron.....	32,638	515	163,049	274	76,857	313,890	51.94
 Mid-Continent Airlines, Inc. Total	195,759	5,850	1,704,495	29,268	8,459,489	2,225,637	76.58
Minneapolis-Tulsa.....	142,544	4,334	1,259,528	25,294	7,318,721	1,602,481	78.60
Minneapolis-Des Moines-St. Louis or Kansas City.....	53,215	1,559	444,967	3,974	1,140,768	623,156	71.41
 National Airlines, Inc. Total	352,752	9,498	4,151,652	44,404	17,225,912	4,717,728	88.00
New York-Key West via Miami.....	215,156	6,257	2,507,678	20,838	8,401,040	2,964,818	87.53
Jacksonville-New Orleans.....	137,596	4,445	1,643,974	23,566	8,824,872	1,852,908	88.72
 Northeast Airlines, Inc. Total	106,104	5,273	1,144,977	16,474	2,769,403	2,350,530	48.71
Boston-Presque Isle and Moncton.....	81,048	4,088	912,153	13,368	2,465,901	900,279	50.44
Boston-Montreal.....	25,056	1,192	232,824	3,106	303,502	541,251	43.02
 Northwest Airlines, Inc. Total	759,985	17,238	11,692,023	242,786	132,454,026	14,752,618	79.25
Chicago-Twin Cities-Seattle; Fargo-Winnipeg.....	754,657	17,238	11,692,023	242,786	132,429,720	14,752,618	79.25
Minneapolis-Duluth.....	3,328	0	0	172	24,306	0
 Pennsylvania-Central Airlines Corporation Total	528,916	36,039	7,614,831	405,500	78,603,875	10,700,322	71.16
Norfolk-Detroit.....	363,888	27,755	5,545,918	274,184	51,066,169	7,390,739	75.04
Detroit-Milwaukee or Chicago.....	99,185	7,495	1,299,491	107,387	19,615,673	2,042,815	63.61
Pittsburgh-Buffalo.....	17,335	818	153,334	4,345	935,800	290,016	51.80
Pittsburgh-Birmingham.....	48,508	1,921	616,088	19,584	6,986,233	970,752	63.46
 Transcontinental & Western Air, Inc. Total	1,901,584	29,732	27,835,513	1,212,176	638,756,596	31,750,055	87.67
New York-Los Angeles.....	1,304,876	24,189	19,329,012	668,325	431,226,776	22,051,162	87.66
Dayton-Chicago.....	41,358	2,470	594,035	93,868	22,077,170	714,535	83.14
Winslow-San Francisco.....	116,682	4,098	1,919,232	32,638	14,772,851	2,161,496	88.79
Kansas City-Pittsburgh via Chicago.....	315,177	8,160	4,085,005	288,856	144,889,009	4,426,134	92.29
St. Louis-Detroit via Cincinnati and Dayton.....	49,563	3,219	752,206	86,787	13,673,286	991,799	76.84
Washington-Dayton via Columbus.....	73,928	3,246	1,156,023	41,702	12,117,504	1,404,929	82.28
 United Air Lines, Inc. Total	2,310,248	52,423	35,983,432	925,535	728,982,351	41,241,481	94.50
New York-San Francisco.....	2,102,344	25,080	26,021,762	710,421	628,019,019	27,484,545	94.68
Salt Lake City-Seattle.....	142,931	3,779	2,584,215	48,802	30,307,207	2,916,703	88.60
Seattle-San Diego.....	507,102	21,161	9,310,243	150,253	63,262,982	9,664,702	96.24
Seattle-Vancouver.....	8,568	1,105	145,646	3,183	308,603	175,165	83.15
Washington-Toledo.....	49,303	1,298	921,566	12,876	5,084,540	1,000,366	92.12
 Western Air Lines, Inc. Total	387,271	12,855	6,606,504	86,897	37,987,547	7,510,111	87.97
San Diego-Salt Lake City.....	205,942	6,844	3,714,600	59,272	29,148,708	4,024,978	92.29
Salt Lake City-Grand Falls.....	50,421	1,830	684,736	4,936	1,326,607	1,032,348	66.33
Grand Falls-Lethbridge.....	9,808	613	74,984	767	121,372	197,001	38.05
Los Angeles-San Francisco.....	121,100	5,842	2,132,184	21,922	7,390,860	2,255,694	94.52
 Total	13,651,239	356,558	202,040,670	6,354,050	3,366,085,229	236,770,787	85.33
 Colonial Airlines, Inc., New York-Montreal Total	109,954	4,772	1,493,252	19,660	5,834,054	2,309,034	64.67
 Hawaiian Airlines, Ltd., Honolulu-Hilo and Port Allen Total	86,497	10,033	1,421,720	705,565	110,445,526	1,528,704	93.00
 Grand Total	13,847,690	371,363	204,955,642	7,079,275	3,482,364,809	240,608,525	85.18

¹The total passengers carried for each airline is an unduplicated figure with the exception of United whose unduplicated figure was not available.

Operations for 1944 as compared with 1943

Operator	Revenue miles flown January-December		Revenue passengers carried (unduplicated) ¹ January-December		Revenue passenger miles flown January-December	
	1944	1943	1944	1943	1944	1943
All American Aviation, Inc.	1,212,089	1,029,751	0	0	0	0
American Airlines, Inc.	34,582,820	26,397,687	951,269	788,990	572,094,112	435,913,741
Braniff Airways, Inc.	5,412,785	4,057,199	225,007	154,054	94,965,133	66,520,573
Chicago & Southern Air Lines, Inc.	2,882,601	2,179,412	104,906	82,017	49,242,103	35,293,185
Continental Air Lines, Inc.	2,371,493	1,543,375	66,808	46,728	23,823,378	14,873,461
Delta Air Corporation	3,499,726	2,339,581	164,257	110,334	65,745,996	43,361,264
Eastern Air Lines, Inc.	17,226,141	13,210,748	487,987	374,419	269,298,050	215,352,713
Inland Air Lines, Inc.	1,229,119	850,449	24,008	12,440	7,610,081	4,011,549
Mid-Continent Airlines, Inc.	2,248,892	1,494,549	74,145	38,439	21,312,458	10,775,481
National Airlines, Inc.	3,363,894	1,923,697	112,756	65,479	40,337,997	23,036,901
Northeast Airlines, Inc.	1,023,104	726,941	53,766	36,263	12,847,261	9,091,388
Northwest Airlines, Inc.	7,405,477	4,475,129	182,528	93,494	120,475,305	63,787,683
Pennsylvania-Central Airlines Corp.	5,313,559	3,097,469	413,264	235,196	90,119,936	52,312,234
Transcontinental & Western Air, Inc.	21,589,536	16,263,234	393,494	322,697	347,841,327	242,003,432
United Air Lines, Inc.	29,666,110	21,955,194	539,250	430,444	456,514,989	357,196,623
Western Air Lines, Inc.	3,194,491	2,057,028	121,199	75,530	57,342,927	32,589,240
Total	142,234,837	103,601,443	3,914,704	2,866,824	2,229,571,053	1,606,119,468
Index (1943=100)	137.29	100.00	136.55	100.00	138.82	100.00
Colonial Airlines, Inc.	1,056,116	691,712	56,032	37,124	17,387,268	11,021,946
Hawaiian Airlines, Ltd.	949,588	909,800	110,242	107,945	15,823,488	15,322,772
Grand Total	144,240,541	105,202,955	4,080,978	3,011,893	2,262,781,809	1,632,464,186
Index (1943=100)	137.11	100.00	135.50	100.00	138.61	100.00

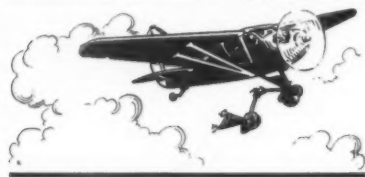
Operator	Express carried (pounds) January-December		Express pound-miles flown January-December		Passenger seat-miles flown January-December		Revenue passenger load factor (percent) January-December	
	1944	1943	1944	1943	1944	1943	1944	1943
All American Aviation, Inc.	141,377	150,058	21,671,848	20,351,733	0	0
American Airlines, Inc.	23,018,583	21,058,223	10,767,510,676	9,764,229,681	636,211,268	494,320,808	89.92	88.18
Braniff Airways, Inc.	1,277,510	1,393,250	638,834,144	703,613,330	106,290,451	72,503,860	89.34	91.75
Chicago & Southern Air Lines, Inc.	1,108,504	859,472	461,043,926	373,296,563	59,653,713	42,057,337	82.55	83.92
Continental Air Lines, Inc.	205,854	114,895	82,525,202	40,258,838	27,220,273	17,235,442	87.52	86.30
Delta Air Corporation	953,486	613,972	351,923,300	236,055,752	72,472,175	48,770,186	90.72	88.91
Eastern Air Lines, Inc.	5,888,884	4,519,080	3,492,148,286	2,760,485,818	312,322,409	246,616,267	77.32	87.32
Inland Air Lines, Inc.	56,176	25,832	11,565,961	5,891,744	11,135,250	6,083,895	68.34	65.04
Mid-Continent Airlines, Inc.	257,540	177,929	71,064,191	43,360,732	27,454,494	17,263,216	77.63	62.42
National Airlines, Inc.	409,163	343,578	143,351,583	101,817,131	46,028,057	26,701,878	87.64	86.27
Northeast Airlines, Inc.	137,199	114,810	26,664,823	23,226,246	21,617,222	15,258,008	59.43	59.58
Northwest Airlines, Inc.	2,306,500	1,554,732	1,243,279,753	1,000,534,952	142,509,826	76,038,052	84.54	83.89
Pennsylvania-Central Airlines Corp.	4,889,270	4,357,938	931,700,911	790,484,269	110,140,413	64,420,997	81.82	81.20
Transcontinental & Western Air, Inc.	13,475,633	10,749,067	7,066,035,739	5,997,975,366	379,534,508	271,236,512	91.65	89.22
United Air Lines, Inc.	10,895,353	10,553,461	8,445,706,813	7,931,779,115	475,613,300	387,844,653	95.98	92.10
Western Air Lines, Inc.	895,805	957,291	433,031,724	442,487,901	64,690,168	38,498,093	87.29	84.65
Total	65,916,837	57,543,591	34,188,058,780	30,235,849,171	2,492,893,507	1,824,849,802	89.40	88.01
Index (1943=100)	114.55	100.00	113.07	100.00	136.66	100.00	101.58	100.00
Colonial Airlines, Inc.	254,758	216,205	78,880,820	63,113,201	22,036,052	13,720,993	78.90	80.33
Hawaiian Airlines, Ltd.	7,269,374	6,064,801	1,123,017,542	958,710,705	16,852,632	16,367,528	93.89	93.62
Grand Total	73,440,969	63,824,597	35,389,957,142	31,287,673,077	2,531,782,191	1,854,938,323	89.34	88.01
Index (1943=100)	115.07	100.00	113.22	100.00	136.64	100.00	101.51	100.00

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Passengers carried (unduplicated) total revenue and non-revenue ¹	242,033	221,011	251,445	272,273	311,829	326,878	371,972	400,904	394,491	420,439	388,749	364,554	3,967,828
16 domestic airlines	255,001	231,809	262,347	283,899	324,275	340,961	387,674	419,838	406,988	436,934	402,995	379,455	4,135,056
Passenger miles flown (total revenue and non-revenue)	141,474,106	125,088,611	142,834,165	155,159,351	181,038,023	193,288,705	211,703,804	227,350,700	225,471,943	239,022,033	217,338,262	204,512,740	2,264,282,443
Total airlines	143,727,253	127,107,076	144,884,424	157,414,978	183,563,374	196,130,812	214,800,861	231,362,843	228,763,362	242,466,584	220,202,530	207,454,248	2,297,781,645

Preliminary. Due to the delay in reporting by some companies, these figures are subject to revision in subsequent publications.

Correction to November 1944 Report in January Journal

Operator	Revenue passengers carried	Revenue passenger miles flown	Express carried (pounds)	Express pound-miles flown	Passenger seat-miles flown	Revenue passenger load factor (percent)
Eastern Air Lines, Inc.	56,738	30,125,323	578,094	335,337,728	34,120,237	88.29
New York-San Antonio or Brownsville	18,122	9,728,879	154,791	106,493,915	11,285,927	86.20
New York-Miami	23,322	11,716,716	219,168	143,291,851	12,659,563	92.55
Chicago-Jacksonville	12,939	5,544,327	153,713	58,551,178	6,148,270	90.18
Atlanta-Tampa	4,475	1,895,193	18,137	9,953,986	2,497,350	75.89
Washington-St. Louis	3,180	1,240,208	32,285	16,746,798	1,529,127	81.11
Total	392,232	214,239,151	6,201,876	3,364,295,290	244,971,223	87.45
Grand Total	406,330	217,068,118	6,888,296	3,468,220,077	248,641,585	87.90



Loss of Propeller Fatal.—Following failure of the propeller shaft and loss of the propeller, an aircraft piloted by William M. Staymates, of Turtle Creek, Pa., crashed three miles south of Vandergrift, Pa. Airport, resulting in death to the pilot and serious injury to his passenger, Charles T. Bellon, 29, of Pitcairn, Pa.

Staymates, 29, held a private pilot certificate with single-engine land rating and had flown about 273 hours, including military time. He had flown only one hour in the type aircraft involved. The passenger was not certificated as an airman.

At an altitude of 2500 feet, Bellon heard what he described as a "loud bang," and immediately afterward the propeller flew off. They started looking for a field in which to land and Staymates selected one to the left, slipping steeply to the left to get into it. As the pilot began a left turn from the slip, the plane dived almost vertically to the ground.

Examination of the wreckage disclosed that the propeller crankshaft broke off at the crankcase due to fatigue and a flaw in the metal. Approximately two weeks prior to the accident a CAA aircraft inspector suggested an inspection be made of the crankshaft. An A & E mechanic did so and found what he thought was a crack. A new crankshaft was ordered, but the plane was not grounded.

The probable cause of this accident was a stall at low altitude during an attempt at an emergency landing following the loss of the propeller. Erratic actions of the passenger may have contributed to the pilot's failure to make a successful landing.

Hits Power Line.—After colliding with a power line and bridge, an aircraft plunged into Lone Star Lake near Lawrence, Kan., with resultant serious injuries to Instructor Harold William Emick and minor injuries to his student, Mrs. Marianna Wigner Harwood, both of Lawrence, Kan. The aircraft was damaged extensively.

Emick, 41, held a commercial pilot certificate with single-engine land, O-355 h.p. and flight instructor ratings. He had flown about 1376 hours, including 1175 in the type airplane involved. Mrs. Harwood held a student certificate and had logged approximately five solo hours.

Both Emick and Mrs. Harwood said they decided to fly low over a lake to see if anyone was fishing, and that while over the water at an altitude the instructor estimated as 150 feet, the engine started sputtering and slowed. Emick said he took over the controls and dived the plane to gain sufficient flying speed to pull up over trees into a field ahead, but that he could not recall what happened thereafter. There was suitable space available for landing on both sides of the lake. Witnesses were of the opinion that the engine was running normally until just an instant before they heard the crash.

Crop Dusters Killed.—Pilots Wilbur George Harvey, 30, of Corsicana, Tex., and Glenn Leon Whitaker, 34, of McGehee, Ark., were fatally injured when their crop dusting planes collided in mid-air and burned approximately 13 miles west-southwest of Clarksdale, Miss. The aircraft were destroyed by impact and fire.

Harvey held a commercial pilot certificate with single-engine land, 80-250 h.p. and flight instructor ratings. He had accumulated about 3151 solo hours, 8 of which were in the type plane involved. Whitaker held a commercial pilot certificate with single-engine land, and flight instructor ratings. He had flown approximately 1882 solo hours, including 90 in the type aircraft involved. Both pilots were employed by the Delta Air Corporation of Monroe, La. owners of the two aircraft involved.

Whitaker and Harvey had been dispatched by Delta Air Corporation from their Monroe base to the Clarksdale Airport, from which point dusting operations were to be conducted under the supervision of Stanley Burton, entomologist and field representative for Delta.

The collision was witnessed by the owner of the plantation and by Mr. Burton. Both were familiar with dusting operations and had a clear and unobstructed view of the two flights. No reason could be found why Whitaker should have left his work and flown across the field being dusted by Harvey. Both pilots had been given specific instructions that they were not to cross each other's flight path.

Caught in Downdraft.—While coming in for a landing at Norway Township Airport, Norway, Mich., Pilot Noel H. Turner, 54, of Chicago, crashed with resultant serious injuries to himself and his passenger, Miss Louise Dewey, 26, of Pontiac, Mich., and extensive damage to the aircraft.

Turner held a private pilot certificate with a single-engine land, O-80 h.p. rating and had accumulated 650 hours of flying time, all in the type aircraft involved.

In the afternoon, Turner flew 10 miles to the Ford Airport, Iron Mountain, Mich., to renew a waiver to fly for another 72 hours from the abandoned Norway Township Airport. Although he was informed at Ford Airport that flying had been suspended due to rough air, he returned to the Norway Airport and resumed carrying friends on short pleasure flights. About 5 p.m. he took off with Miss Dewey as a passenger and 15 minutes later approached the field from the west for a landing. A left turn was made at an altitude of 400 feet for the final approach. During this turn the aircraft apparently was stalled and entered a left spin which continued to the ground.

According to the pilot, the air was rough but the wind at ground level was not more than 15 m.p.h. He said he disliked to disappoint his friends who expected to be taken for rides and he therefore made the flights against his "better judgment." He expressed the belief that loss of control was due to a "severe downdraft" which he said forced the plane into a spin. No official information about the weather at the time and place of the crash was available. Dual controls were installed and operative.

The probable cause of this accident was a stall and a subsequent spin at low altitude from which recovery was not effected.

Joy Riding Disastrous.—After taking an Army primary trainer on a night flight without authorization, Dick Moore Cline, Jr., and Maurice Handman crashed and were seriously injured near Cannon Airport, Charlotte, N. C.

Cline, 23, of Charlotte, held a commercial certificate with single-engine land, O-330 h.p. and flight instructor ratings. He had accumulated approximately 2550 hours of flying time, including 1500 hours in the type aircraft involved and 630 hours at night. Handman, 35, also of Charlotte, held a commercial certificate with single-engine land and flight instructor ratings. He had flown about 2000 hours, including about 125 hours at night. Both men had formerly been employed at the airport as instructors.

During the afternoon of the day preceding the accident four Ryan PT-22's were delivered to the Cannon Aircraft Sales and Service Corporation and the War Training Service of the C.A.A. at the Cannon Airport to be placed in the surplus aircraft pool. Cline and Handman were at the airport and observed the arrival and disposition of the aircraft. Sometime after midnight they started the engine of AAF 15566. Someone switched on the field floodlights and the two men took off. Since the plane had no lights, its path in the air could not be followed. During an apparent approach to land SW on the NE-SW runway, the plane collided with tall oak trees and crashed.

Both men admitted they had been drinking liquor. Their recollection of events was hazy, but they recalled taking off and flying around. They said that Cline occupied the front seat as pilot and Handman the rear seat as passenger.

The probable cause of this accident was failure to avoid trees during a reckless night flight by a pilot who was under the influence of liquor.

11 Die in Air Crash.—An accident involving an aircraft of United States registry, a Douglas DC3 operated by American Airlines near Centerville, Tennessee resulted in the deaths of three members of the crew; one airline captain, a non-revenue passenger and all of the six revenue passengers. The aircraft was demolished.

The Washington Office of the Civil Aeronautics Board immediately initiated an investigation and ordered a public hearing.

On the basis of all evidence accumulated during the investigation, the Board now makes its report.

Signed statements were taken from 20 residents of the vicinity who heard the airplane in flight. Only five of them actually saw the flight at some time during the approximate three to four-minute period prior to the crash. It is apparent that the airplane had been on course and when heard was flying at altitudes estimated by witnesses as "about 500 feet," "very low," "just above the house tops," and "so close it shook the roof."

Inability of the aircraft to gain or maintain altitude due to carburetor ice or propeller ice or wing ice or some combination of these icing conditions while over terrain and in weather unsuitable for an emergency landing was given as probable causes. A contributing factor was weather conditions which, had their nature been anticipated, should have precluded the dispatch of the flight.

3 Hurt in Forced Landing.—An accident which occurred near the Detroit City Airport, Detroit, Mich., resulted in serious injuries to the pilot, Frank Joseph Miramonti, 24, and a passenger, Frank Borset, 15. Another passenger, Raymond Randolph, 16, received minor injuries while Mona Jacobs, 16, escaped injury. All four occupants were residents of Detroit.

The pilot held a private certificate with a single-engine land, 0-80 h.p. rating, and had flown approximately 190 hours.

Miramonti, with his three passengers, took off from the Detroit City Airport for a local pleasure flight. During a circling maneuver the plane was stalled and crashed in an open field on the nose, left wing and landing gear. Fire followed immediately.

According to Miramonti, the oil pressure gauge indicated zero and he immediately selected a field for an emergency landing. He said he did not remove the dual controls before this flight and that while he was on the last leg of his landing approach, "the boy in the front, not realizing what he was doing, kicked the right rudder and we went into a spin. Before I could recover completely we hit the ground." Investigation indicated that the oil system was functioning normally at the time of the accident. The large, level field in which the accident occurred was covered with weeds and scattered shrubs but was suitable for an emergency landing.

The probable cause of this accident was a stall at an altitude too low to effect recovery.

Pilot and Passenger Drowned.—While flying low over the Ohio River, Pilot John E. Kennedy, 23, of Beaver, Pa., struck power wires and crashed into the water. He and his passenger, Robert Lee Kendelberger, 15, of Rochester, Pa., were drowned and the aircraft was demolished.

Kennedy held a commercial certificate with single-engine land and sea, flight instructor and instrument ratings. He had accumulated about 660 hours of flying time, including 500 hours in the type aircraft involved.

Kennedy took off about 3:20 p.m. from the Rochester Seaplane Base, with Kendelberger occupying the rear seat. The plane was observed approximately 100 feet above the river, approaching a Coast Guard boat. The aircraft descended slowly and collided head-on with three power wires which extended across the river at a height of 75 feet, then fell into the water in an inverted position. The Coast Guardsmen attempted to extricate the two occupants, but could not do so in time to save them.

Kennedy had been employed one week as an instructor at the Rochester base. This base was not a designated area approved by the Civil Aeronautics Administration, although it had been approved recently by the State of Pennsylvania.

The probable cause of the accident was flying at an unnecessarily low altitude which resulted in striking wires.

Recklessness Fatal.—After diving very close to friends on a roof top at Misenheimer, N. C., Student Pilot Jay Ross Hatley, 19, of Badin, N. C., was fatally injured when the aircraft struck a tree, crashed to the ground and burned.

Hatley had accumulated 25 or 30 hours of solo time, all in the type aircraft involved.

Hatley took off from Concord Airport for a local flight. The plane was observed over the village of Misenheimer, 13 miles north-east of the airport. Hatley approached from

the southwest, circled and then power dived toward a house where two of his friends were working on a roof about 25 feet high. The plane came within a few feet of the roof top, then zoomed upward. The left wing struck a limb of an oak tree at a height of 40 feet. The plane then crashed through another tree about 375 feet south of the house and fell to the ground and burned.

Witnesses said the engine was operating at least until the impact with the first tree.

The probable cause of this accident was reckless low flying which resulted in collision with a tree.

Lands in Grove.—During an attempted precautionary landing 15 miles north of Westwood, Calif., Pilot Frank Zeman, 33, of Reno, Nev., flew into a grove of trees and crashed with resultant serious injuries to himself and extensive damage to the aircraft.

Zeman held a commercial certificate with single-engine land, 0-240 h.p. and flight instructor ratings, and had accumulated approximately 900 hours of flying time.

The pilot had flown from Alturas to Worden, Ore. After refueling, he started his return to Alturas, following a railroad track southeast. At a point where two railroads cross, Zeman followed the wrong one, apparently relying entirely on the railroad for his navigation. He stated that after sufficient time had elapsed for him to have reached his destination, he realized he was lost, and continued following the railroad track, hoping to locate an airport. Near Westwood he came to a dry lake bed two miles long and three-fourths of a mile wide but by this time he was excited and confused and after circling the lake bed twice, he attempted a landing at high speed, and overshot the open area. The plane struck the tops of pine trees and fell to the ground nose first.

The lake bed was suitable for a landing. So great was the speed, however, that the plane did not touch the ground prior to the crash. Zeman stated that when he saw he was going to hit the trees, he zoomed in order to hit them near the top.

The probable cause of this accident was the confusion and excitement of the pilot which caused him to overshoot a large landing area and strike trees in his path.

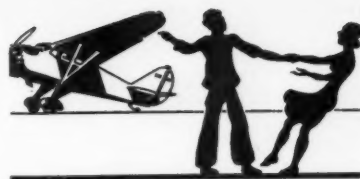
Hurt Stunting.—Pilot Donald Charles Andrews, 16, of Poughquag, N. Y., was seriously injured when the plane in which he was circling a friend's home struck a tree and crashed approximately 7 miles north of Lime Ridge Airport, Billings, N. Y.

Andrews held a student pilot certificate and had flown approximately four solo hours, all in the type airplane involved. The aircraft was demolished.

Andrews was observed to make two landings and then fly north. Shortly thereafter he arrived over the home of a friend and after circling the house several times, he started a climbing right turn from a very low altitude. During this turn the right wing struck a tree about 75 feet above the ground.

There was no evidence of failure of any part of the aircraft prior to the accident and the manner in which the propeller was broken indicated that power was being developed. The safety belt was fastened at the buckle but had broken at the point of its attachment to the plane.

The probable cause of this accident was failure of the pilot to clear obstructions while performing unnecessary maneuvers at a recklessly low altitude.



Boy Flier and Friend Killed.—While flying with a 15-year-old friend, Student Pilot James M. Lauder, 17, went into a spin from which recovery was not fully effected, and the plane struck the ground, resulting in death to the pilot and his passenger, Alfred E. Edwards, both of Coleman, Tex. The accident occurred near Coleman.

Lauder had flown approximately 50 solo hours, including 20 hours in the type aircraft involved. Edwards was not certificated as an airman. The aircraft was demolished.

Examination of the wreckage disclosed no evidence of failure of the engine or any other part of the aircraft. Dual controls were installed and operative. The occupants did not wear parachutes.

The probable cause of this accident was failure to complete recovery from an intentional spin.

Recklessness Kills Two.—Reckless low flying ended in fatal injury to Pilot Thomas Harold Vandiver, 31, and his passenger, Leonard George Collier, 31, both of Cullman, Ala., at the Cullman Airport. Vandiver held a private pilot certificate with a single-engine land, rating. He had flown approximately 176 solo hours, about 60 of which were in the type aircraft involved. Collier held a commercial pilot certificate with single-engine land, and flight instructor ratings. He was accredited with 1300 hours of solo flight time.

Vandiver, manager of Cullman airport, invited Collier to accompany him on a local flight. Collier accepted and occupied the rear seat. When over a wooded area near the corner of the field, the plane was dived to near tree-top level, then pulled up into a chandelle. Following this maneuver it passed over the airport about 100 to 300 feet above the ground in a wide left turn, dived to approximately tree-top level and again executed a chandelle. The plane was then flown north along the east side of the airport in a slightly nose-down attitude at a speed described by witnesses as "faster than cruising," and "with engine wide open." When opposite the hangar, at an altitude estimated as 100 to 200 feet, a steep turn to the left was entered, during which altitude was lost and the left wing struck the ground. The plane slid forward on its nose and left side of the fuselage to a stop 75 feet beyond.

The probable cause of this accident was the pilot's failure to maintain altitude while recklessly attempting a steep turn close to the ground.

Student Pilot Killed.—Walter D. Burgwin of Camp Wolters, Tex., was fatally injured in an accident which occurred five miles west of Mineral Wells, Tex.

Burgwin, 35, held a student pilot certificate and had accumulated about 200 solo hours, including approximately 125 hours in the type aircraft involved.

The probable cause of the accident was failure to effect recovery from a spin while indulging in reckless maneuvers at a dangerously low altitude.



Airline Orders

Service

No. 3354 dismisses the application of Central States Aviation for certificate, Docket 1117, from the North Central Case. (Dec. 26.)

No. 3355 dismisses on request application of Mutual Trucking Co. for certificate, Docket 992, from the North Central Case. (Dec. 26.)

No. 3356 dismisses application of Pennsylvania-Central Airlines filed Mar. 24, 1942. Docket 727-728. (Dec. 26.)

No. 3357 dismisses application of Pennsylvania-Central Airlines for exemption order. Docket 664. (Dec. 26.)

No. 3358 denies application of Port of New York Authority to intervene in application of Northwest Airlines for certificate and in same order grants U. S. Maritime Commission permission to intervene. Pacific Case. (Dec. 26.)

No. 3359 orders severance of applications of Inland Airlines, Docket 902, and Chicago & Southern Airlines, Docket 880, from application of Northwest Airlines for certificate. Pacific Case. (Dec. 26.)

No. 3364 denies application of Mid-Centennial Airlines for reconsideration of Board's order consolidating the application of Transcontinental & Western Air with Automatic Mail application. (Dec. 27.)

No. 3365 permits Colonial Airlines to intervene in application of Northeast Airlines for consolidation of its certificates with a single certificate designated as Route 22. (Dec. 27.)

No. 3366 denies the application of Braniff Airways to consolidate Docket 1682 with another application for certificate to provide service between Oklahoma City, Okla., and Lubbock, Tex. (Dec. 29.)

No. 3371 dismisses applications of Arkansas Valley Airlines, Docket, 1519; Denco Bus Lines, Docket, 982; Magnolia Airways, Docket, 1130; Leon A. Schwarck, Docket, 1316; Southwest Airways, Docket, 886; Sunshine Airlines, Docket, 976; Watkins & Rutledge, Dockets, 1324 and 1325 and Texas Motorcoaches, Docket, 1649. Orders applications of Southwest Feeder Airlines, Docket, 1532, and Frisco Transportation, Docket, 1527, be restored and made parts of Dockets, 887 and 982 and cancels Dockets, 1527 and 1532. Grants permission to Transcontinental & Western, the City of Houston, Tex. and Tulsa, Okla. to intervene in the Texas-Oklahoma Case. (Dec. 30.)

No. 3372 dismisses application of American Airlines to consolidate routes Nos. 4 and 23. (Dec. 30.)

No. 3373 approves interlocking relationships of Essair, Inc., W. F. Long and L. H. Luckey. (Dec. 30.)

No. 3374 dismisses application of United Fruit for certificate. (Dec. 30.)

No. 3375 amends service suspension order to permit Eastern Air Lines to land on Jan. 4 at Philadelphia Municipal Airport to pick up child in need of operation, and parents to carry them to Boston, Mass. (Dec. 29.)

No. 3377 orders proceedings to fix rates for transportation of mail by Pan American Airways between New York City and terminal points in Europe. (Dec. 30.)

No. 3378 denies application of National Airlines for exemption from provisions of section 401 (a) Civil Aeronautics Act of 1938. (Dec. 30.)

No. 3379 permits Hannaford Airlines to include portions of its application, Docket 637, with Docket 1619 and consolidates this application into the North Central Case. (Jan. 1.)

No. 3389 grants Northern Airlines permission to intervene in application of Northeast Airlines for certificate to carry mail over that part of Route 27 known as the Mayflower Route. (Jan. 10.)

No. 3390 grants the Cities of Lubbock and Wichita Falls, Tex., permission to intervene in the applications for certificates of Braniff Airways, American Airlines, Chicago & Southern Air Lines, Continental Air Lines, Delta Air Corporation and Eastern Air Lines. (Jan. 10.)

No. 3391 transfers Mayflower Airlines certificate to Northeast Airlines. (Jan. 5.)

No. 3392 permits Department of Justice, City of Milwaukee and Braniff Airways to intervene in the North Central Case. (Jan. 5.)

No. 3393 amends service suspension order No. 3375 permitting Eastern Airlines to pick up child patient and parents at Philadelphia Municipal Airport to be taken to Boston for surgical opera-

tion and permits airline to perform service on Jan. 10 instead of Jan. 4 as was provided in order 3375. (Jan. 9.)

No. 3394 authorizes American Airlines to begin service to Akron, Ohio, as an intermediate point on Route No. 22. (Jan. 10.)

No. 3395 permits United Air Lines to begin non-stop service between Sacramento, Calif., and Eugene, Ore., on Route No. 11. (Jan. 10.)

No. 3396 permits Western Air Lines to lease one Stinson airplane to Inland Air Lines. (Jan. 10.)

No. 3397 terminates temporary exemption of American Airlines certificate making Joplin, Mo. an intermediate stop between Springfield, Mo. and Tulsa, Okla. (Jan. 11.)

No. 3401 denies petition of the Port of New York Authority for a rehearing on a previous decision of the Board excluding it from intervention in the application of Northwest Airlines and other applicants for certificates in the Pacific Case. (Jan. 15.)

No. 3402 consolidates application of Olson Steamship and Navigation Corp., to conduct operations between U. S. and Calcutta, with those in the Pacific Case. (Jan. 15.)

No. 3403 grants request of Francis L. Duncan and Western Air Lines for severance of their applications from the Pacific Case. (Jan. 15.)

No. 3406 approves agreement between Chicago & Southern Air Lines and Eastern Air Lines for joint use of radio transmitter site at Evansville, Ind. (Jan. 17.)

No. 3407 denies application of Continental Air Lines to consolidate its application with those in the North Central Case. (Jan. 17.)

No. 3408 on request of Nebraska Airlines its application in the North Central Case is dismissed. (Jan. 20.)

No. 3409 approves agreement between Pan American Airways and K.L.M.—Royal Dutch Airlines relating to use of Pan American Field at Miami, Fla., by K.L.M. (Jan. 20.)

Airman Orders

Suspensions

No. 3345 suspends private pilot certificate of William David Gilmour for flying too low; performing unnecessary acrobatic maneuvers when neither he nor his passengers were equipped with parachutes. Suspension, six months. (Dec. 22.)

No. 3346 suspends student pilot certificate of Norman Winfred Hoecker for flying too low. Suspension, 90 days. (Dec. 22.)

No. 3347 suspends student pilot certificate of Eugene Thomas Skonieczny for flying too low. Suspension, 60 days. (Dec. 22.)

No. 3360 suspends student pilot certificate of Donald G. Taggart for flying too low and within vital defense zone. Suspension, six months. (Dec. 27.)

No. 3361 suspends commercial pilot certificate of John Robert Yanik for performing low acrobatics while neither he nor his passenger had parachutes. Suspension, 30 days. (Dec. 27.)

No. 3367 suspends private pilot certificate of Robert Heys for entering airport control zone in instrument weather without obtaining approval; flying too low; lacking instrument rating and piloting plane not equipped for instrument flight. Suspension, 90 days. (Dec. 29.)

No. 3369 suspends student pilot certificates of J. T. Skinner for series of offenses for six months and thereafter restricted until Skinner passes written and flight examination for private pilot certificate. (Dec. 29.)

No. 3380 suspends student pilot certificate of John Flath Lindemann for uncertified cross-country flight. Suspension, 90 days. (Jan. 2.)

No. 3381 suspends commercial certificate of Harvey James Kleinlein for flying too low; acrobatics; flying too close to another plane and failure to provide parachutes. Suspension, 6 months. (Jan. 2.)

No. 3382 suspends student pilot certificate of Jesse Morton Jenkins for flying too low acrobatics; flying too close to another plane and failure to provide parachutes. Suspension, 6 months. (Jan. 2.)

No. 3384 suspends private pilot certificate of Frank Joseph Miramont for carrying passengers when not certificated for such operation and with dual controls operative. Suspension, 60 days. (Jan. 5.)

No. 3385 suspends mechanic certificate of Harry Hechter for making improper repairs on an airplane. Suspension, 90 days. (Jan. 5.)

No. 3386 suspends mechanic certificate of William Percy Brown for approving as airworthy an airplane not in proper condition for safe operation. Suspension, 90 days. (Jan. 5.)

No. 3388 suspends mechanic certificate of Ray Henry Full for making repairs on plane which

affected its airworthiness. Suspension, 90 days. (Jan. 5.)



Revocations

No. 3362 revokes private pilot certificate of Joseph Herman Isaac for flying too low. (Dec. 27.)

No. 3363 revokes student pilot certificate of Kenneth Vernon Post for flying an unidentified plane accompanied by a passenger other than the certificated instructor. (Dec. 27.)

No. 3368 revokes student pilot certificate of William Ewald Ruhl for flying with two passengers not certificated instructors and making landings and take-offs from undesignated areas. (Dec. 29.)

No. 3387 revokes student pilot certificate of Wallace Gordon Fitch for violations showing a disregard for safety of others and the Civil Air Regulations. (Jan. 5.)

No. 3404 revokes student pilot license of James Cecil Matthews for flying too low and not having in his possession a medical or airman's certificate. (Jan. 16.)

Miscellaneous

No. 3348 dismisses complaint against Cortlandt Whitehead Schepler, holder of student pilot certificate, upon his demonstration, subsequent to filing of complaint, of his physical fitness. (Dec. 22.)

No. 3349 denies second request of Joseph C. Mirguet for waiver of requirements of Section 20.145 of Civil Air Regulations. (Dec. 22.)

No. 3370 delays beginning of suspension of student pilot license of Thomas Guy Brown for 30 days. (Dec. 27.)

No. 3405 dismisses complaint against Henry Clay Moore, commercial pilot, for landing his plane on Naval Facility Airport, Durant, Okla., when Moore proved he acted to save his passenger and himself. (Jan. 16.)

Amdt. 20-6.....Effective Jan. 2, 1945

§ 20.178 of the Civil Air Regulations is amended to read as follows:

20.178 Military competence. Same as in § 20.129.

Reg. 278-A.....Effective Jan. 1, 1945

Special Civil Air Regulation Serial Number 278 is amended by striking the words "December 31, 1944" and inserting in lieu thereof the words "June 30, 1945".

Note: The termination date of this regulation was previously extended to June 30, 1944, and to December 31, 1944, by Special Civil Air Regulations Serial Numbers 298 and 311.

Reg. 329.....Effective Jan. 17, 1945

AMENDMENT No. 4 OF SECTION 228.1 OF THE ECONOMIC REGULATIONS—FREE TRAVEL FOR POSTAL EMPLOYEES.

Effective immediately, section 228.1, paragraph 1, sub-paragraph (e) of the Economic Regulations, as amended, is hereby amended to read as follows:

"(e) The Superintendent, Air Mail Service; the Assistant Superintendent, Air Mail Service; and the five Regional Superintendents, Air Mail Service, located respectively at New York, N. Y., Chicago, Ill., San Francisco, Calif., Atlanta, Ga., and Fort Worth, Tex."

Northeast Area Extended

The Civil Aeronautics Board authorizes Northeast Airlines to engage in air transportation between terminal point Boston and intermediate points Provincetown, Hyannis, Oak Bluffs and terminal point Nantucket, known as Route 70. Persons and property, except mail, may be transported.

Civil Aviation to Play Big Part in National Economy, Says Burden

Looking ahead to the time when civil aviation will assume its position, along with water, rail and road transportation, as a major element in the national economy William A. M. Burden, Assistant Secretary of Commerce, lays particular emphasis on the necessity for airport construction.

Mr. Burden spoke before the National Crushed Stone Association with particular reference to the importance of that industry in relation to the CAA National Airport Plan.

"We have now reached a point," said he, "when civil aviation is important enough in the National economy to have its need for public airport facilities considered on its own merit. The House of Representatives undoubtedly was conscious of this when it asked the Department of Commerce to prepare, through the Civil Aeronautics Administration, a report on the need for airports in postwar aviation. This report was submitted on November 28 and we believe it is adequate and sufficiently flexible to give our Country a sound network of airport facilities if carried out."

Wrong Impression Prevails.—"No phase of aviation activity has suffered more from conflicting reports and confusing statements than the subject of airports. There are no funds available to the Civil Aeronautics Administration at the present for Federal aid in airport development."

Continuing, Mr. Burden pointed out the part the CAA will play in the plan, when he said; "The only assistance the CAA can give is consulting advice on airport planning, site selection, and airport operational and management problems," he said, "this counsel is available to all civic bodies and anyone in need of it, but Federal financial aid depends upon future action by Congress in passing necessary legislation and appropriations for airport development."

In our report to Congress we point out our present system of airports in the Country is not adequate to serve the needs of aviation immediately after the war.

"In order to serve aviation and make possible this expected extensive growth in civil aviation the report proposes this Nation construct approximately 3,000 new airports and improve approximately 1,600 of the 3,000 existing airports. The estimated cost of the program is approximately one billion dollars, exclusive of land and airport terminal buildings."

Quarter of Billion For Land.—"Land values vary considerably with the location, but it is estimated an additional amount of \$250,000,000 would be involved in the acquisition of necessary land and the construction of airport terminal buildings, not including hangars, making a total cost for the entire program of approximately a billion and a quarter dollars."

"Such a program could be spread over a five to ten year period with the Federal Government and State and local governments sharing the costs on a proportion to be established by the Congress when passing the necessary legislation."

"A well established precedent for the principle of cost sharing between the Federal Government and non-Federal public agencies for national development of transport-

AIR REGULATIONS ... As of February 1, 1945

TITLE	PART No.	PRICE		DATE LATEST EDITION		NO. AMENDMENTS ISSUED	
		Part	Manual	Part	Manual	Part	Manual
Aircraft							
Airworthiness Certificates.....	01	\$0.05	None	10/15/42	None	*1	
Type and Production Certificates.....	02	.05	None	3/1/41	None		
Airplane Airworthiness.....	04	.15	(1)	11/1/43	2/1/41	2	5
Engine Airworthiness.....	13	.05	None	8/1/41	None		
Propeller Airworthiness.....	14	.05	(1)	7/15/42	12/1/38		
Equipment Airworthiness.....	15	Free	\$0.10	4/15/44	7/1/38		
Radio Equipment Airworthiness.....	16	0.05	Free	2/13/41	2/13/41		1
Maintenance, Repair, and Alteration of Aircraft, Engines, Propellers, Instruments.....	18	.05	0.50	9/1/42	6/1/43		
Airmen							
Pilot certificates.....	20	.10	None	2/15/44	None	6	
Airline Pilot Rating.....	21	.05	None	10/1/42	None	3	
Lighter-than-air Pilot Certificates.....	22	.05	None	10/15/42	None		
Mechanic Certificates.....	24	.05	None	7/1/43	None		
Parachute Technician Certificates.....	25	.05	None	12/15/43	None		
Traffic Control Tower Operator Certificates.....	26	.05	None	2/1/44	None		
Aircraft Dispatcher Certificates.....	27	.05	None	10/1/43	None		
Physical Standards for Airmen.....	29	.05	None	6/1/42	None	2	
Air Carriers							
Air Carrier Operating Certification.....	40	.10	None	*10/10/44	None		
Air Agencies							
Flying School Rating.....	50	.05	Free	11/1/40	12/40	3	2
Ground Instructor Rating.....	51	.05	None	12/15/43	None		
Repair Station Rating.....	52	.05	Free	10/1/42	2/41		
Mechanic School Rating.....	53	.05	(1)	8/1/42	5/40		
Parachute Loft Certificates and Ratings.....	54	.05	None	1/21/43	None		
Air Navigation							
Air Traffic Rules.....	60	.10	0.15	8/15/44	8/1/43	3	
Scheduled Air Carrier Rules.....	61	.10	None	2/1/44	None	2	
Foreign Air Carrier Regulations.....	66	.05	None	3/1/42	None		
Miscellaneous							
Definitions.....	98	.05	None	10/15/42	None		
Regulations of the Administrator							
Aircraft Registration Certificates.....	501	Free	None	3/31/43	None		
Recordation of Aircraft Ownership.....	503	Free	None	3/31/43	None		
Seizure of Aircraft.....	531	Free	None	12/8/41	None		

*Out of stock. *Special regulation No. 223. *Reprinted including amendments.

Note: Those parts and manuals for which there is a price are obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Remittances must be by cash or by money order, payable to the Superintendent.

tation facilities is seen in the Public Roads program, which has operated on a 50-50 basis for many years with great benefit and satisfaction.

"To effectuate a Federal aid airport development program the CAA in its report recommended the Congress authorize an appropriation not to exceed \$100,000,000 annually, to be used in a program of Federal aid for the development of a nationwide system of public airports adequate to meet the present and immediate future needs of Civil Aeronautics.

"It was also recommended that \$3,000,000 be made immediately available for preparatory work so that an adequate airport construction program could commence as soon as appropriations are made. It was recommended such a program be conducted in cooperation with the States and other non-Federal public agencies on a basis to be determined by the Congress in the enabling legislation. The proportion of Federal contribution was to be determined by the Congress in the enabling legislation.

CAA Standards Recommended.—"It was recommended that all projects for airport development undertaken under the program conform to standards as laid down by the Administrator.

"It was recommended that the sponsors

of such projects have the necessary authority and agree to protect the airport approaches and to insure the operation of all such airports in the public interest without unjust discrimination or unreasonable charges.

"The airport is the basic facility of aviation, just as the highway is the basic facility of automotive transportation or harbor facilities are basic to water transportation.

"By investing 25 billion dollars in roads during the last 25 years we have made it possible for the United States to become a Nation on wheels, with 32,000,000 motor vehicles in operation during normal times.

"For a much smaller investment we can start the United States on its way toward becoming a nation on wings with all that implies in war and peace.

"As a by-product of the war we have the necessary manufacturing facilities and a huge pool of potential pilots."

After carefully reviewing the various phase of the National Airport Plan, Mr. Burden concluded by saying:

"A National airport system is so essential that its development cannot be laid away on a shelf of public works plans for use only in a period of widespread unemployment."

Handicapped Pilots Are Reminded Again Of New License Ruling

Physically handicapped applicants for pilot's licenses have no reason now for appeal to Washington, T. P. Wright, Administrator of the Civil Aeronautics announces, in stressing the new provisions for granting of such licenses.

Ability to fly, when it is proved to the CAA Aeronautical Inspector in the field, is the sole basis upon which licenses are granted, Mr. Wright said, recalling a recent revision of the Civil Air Regulations.

Pointing out that an increasing load of work and an inadequate supply of workers in the CAA's medical staff in Washington had resulted in a large backlog of applications from physically handicapped, would-be pilots, the Administrator emphasized no appeal to Washington is now necessary.

Under a recent ruling, the applicant gets his physical examination from an authorized CAA Medical Examiner, who notes upon his report what the applicant's structural physical defect is. He is then issued a student's certificate without further examination or test. His instructor decides when he is safe to solo, and when he has obtained sufficient experience in the air, he appears before a CAA Aeronautical Inspector and proves his ability to fly the plane. Thereupon, he is given his pilot's certificate.

"There is no need for any applicant to write to Washington," Mr. Wright said. "There is no need for enlisting any other helper in getting the license. The whole matter lies between the applicant and the inspector whose instruction from Washington is that if the applicant can fly, he is to be given a license. Even those whose cases have been hung up in Washington may apply anew in their own community and obtain licenses if they are qualified."

"This is another, and an important step, in the CAA's effort to remove all restrictions consistent with safety, from the professional and pleasure flier. There are still other changes now under consideration."

Air Traffic Control Plans Are Discussed by Gilbert

Glen A. Gilbert, Chief of the CAA Air Traffic Control Division, addressed the annual meeting of the Radio Technical Commission for Aeronautics on "Plans to Improve Air Traffic Control."

He summarized his remarks by saying: "As new ideas are produced and improved devices are developed, plans must constantly be reviewed and modified as the consensus may indicate. Ultimately, it should be possible for air traffic to move safely during instrument weather conditions in the same volume and with the same frequency as is today possible during contact weather conditions."

Air Carrier Earnings Mount

The Civil Aeronautics Board announced the net operating revenue in September for the 18 domestic air carriers, including All American Aviation, Inc. and Hawaiian Airlines, reached a total of \$4,272,497 which is an increase of \$1,669,671 over the same period last year.

Draft of Proposed Global Flight Rules Ready For Comment

Following up on the work of the International Civil Aviation Conference in Chicago, the Civil Aeronautics Board is circulating for comment by the industry drafts of regulations covering three phases of international flying.

They are: Airworthiness, Standards Relating to Licensing of Operating and Mechanical Personnel and Rules of the Air.

The Board's action is a step toward the preparation of acceptable regulations for presentation to the Interim International Council when it meets.

The drafts reflect the work of Civil Aeronautics Administration and Civil Aeronautics Board technicians prior to and at the Chicago meeting. Prominent among them were A. A. Voolmecke, Charles Dycer, Omer Welling and Paul Spiess of CAA, on Airworthiness; Kenneth Matucha and Glenn Gilbert, CAA, on Rules of the Air; Robert D. Hoyt, CAB, and James R. Kinney, CAA, on Standards of Licensing.

Suggestions for improvement and comments on the drafts should be sent to the Civil Aeronautics Board, Washington 25, D. C., on or before March 15.

Mail Pound-Miles Increase

The Civil Aeronautics Board announces mail pound-miles flown by the 18 domestic airlines in October increased 43.96 percent and express pound-miles increased 35.45 percent, over the corresponding month in 1943 and revenue miles increased 53.55 percent. The number of revenue passenger-miles increased 53.78 percent compared with October a year ago.

CAB Issues More Statistics

An exhaustive study of travel distribution in all areas has been made by the Research and Analysis Division of the Economic Bureau of the Civil Aeronautics Board and is available for very limited distribution to persons who have need for the statistics in their work or those who have a valid interest. Fields covered in the report are: Regional distribution of total travel by transit areas; regional distribution of potential air travel; regional distribution by national origin of travel and distribution of service carrier passenger revenues between the U. S. and foreign vessels and distribution of revenues contributed to the U. S. and foreign vessels by U. S. and foreign residents.

Private Fliers' Problems To Be Studied By Board Proposed By T. P. Wright

To increase postwar private flying a special committee has been proposed by T. P. Wright, Administrator of Civil Aeronautics. It will act in an advisory capacity in planning the expansion of non-scheduled operations.

Mr. Wright suggests its personnel be composed of representatives of the aviation industry and private fliers.

This follows the recent appointment by the Administrator of an assistant whose assignment will be the development of personal flying.

Industry to Nominate.—Mr. Wright has asked the industry and flying groups to nominate their choices for the committee, and its personnel will be announced within a few weeks.

The Advisory Committee, consisting of 12 members, will consider matters pertaining to the whole field of flying outside that of scheduled transport activities. Certain Federal aviation officials will participate as advisors. These include John H. Geisse, the new Assistant to the Administrator for the Development of Personal Flying, Fred Lanter, Director of CAA Safety Regulation, Jesse W. Lankford, Director Safety Bureau, Civil Aeronautics Board, and W. L. Jack Nelson, of the CAA, as Executive Secretary.

Seven members of the committee will be leaders in private flying activities, one each from seven regions of the CAA, thus giving adequate geographical coverage. The remaining five will represent the aircraft manufacturers, the airlines, the aviation consumers, fixed base operators and State aviation officials.

Private Flier Considered.—"The private flier and the non-scheduled operator of aviation services do not feel that they have been adequately represented in the activities of the Federal Aviation agencies," Mr. Wright said in establishing the Advisory Committee.

"As a result of the increasing demands made on the CAA and the CAB by the scheduled air carriers, this has resulted in concentrating on their problems in a large measure, but we know that private flying possesses potentialities that may some day compare with scheduled flying as the private automobile now compares with the bus."

"If we are to have an aviation manufacturing industry of outstanding economic importance, it must be based on non-scheduled flying and its needs for manufacture and service. The CAA will profit greatly by the assistance of this committee in formulating its policies relating to the encouraging and fostering of this part of civil aviation."

Airline Business Increases

The Civil Aeronautics Board has announced mail pound-miles flown by the 18 domestic airlines in November increased 37.55 percent and express pound-miles increased 27.25 percent, over the corresponding month in 1943 and revenue miles increased 48.98 percent. The number of revenue passenger-miles increased 48.45 percent compared with November a year ago.

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